Dear Duke faculty,

I’m pleased to attach a draft preface and introduction from a manuscript that I’m writing about the design of monetary systems. The working title is *Modernizing Money and Banking*. Even though it’s just a preface and intro, I think you’ll find the material to be quite substantive.

If you aren’t able to read the whole thing, skip the preface and just read pp. 1-26 of the Introduction.

I’m very much looking forward to your critical feedback.

M.R.
Modernizing Money and Banking

Morgan Ricks

Working Draft – please do not quote or distribute without the author’s permission.
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Preface

This book found its genesis at the U.S. Treasury Department in the fall of 2009. I had joined Treasury earlier that year as a senior member of the newly created Crisis Response Team. We were a small group of Wall Street professionals—investment bankers, traders, and buyout specialists—whom Secretary Geithner had brought on board to help engineer the Obama administration’s response to the financial crisis. That fall, with the financial system in fairly stable condition, Geithner asked us to turn our attention from financial rescue to financial reform. The team gathered one afternoon to review some ideas.

We quickly found ourselves converging on a key issue. We called it “shadow banking.” That term has come to mean different things to different people. Indeed, the term has become so vague as to render it almost meaningless. Sometimes it is used as a synonym for loan securitization; other times it is used as an all-purpose reference to unregulated or lightly regulated parts of the financial system. To us, however, the term meant something very different, and quite specific. When we talked about shadow banking, we were referring to the financial sector’s usage of vast amounts of short-term debt to fund portfolios of financial assets.\(^1\)

The short-term funding markets are enormous, but they are fairly obscure. They exist largely in the background, as part of what might be called the “operating system” of modern finance. These markets have weird names—like “repo,” “Eurodollars,” and “asset-backed commercial paper”—but this confusing terminology belies their simplicity. These markets are not exotic at all. They are as simple as can be: they are just short-term debt. Borrowings in these markets mature very soon, often in a single day. Financial institutions that rely on these markets typically must renew (or “roll over”) large quantities of short-term borrowings on a continuous basis. The failure to do so on any given day would result in the immediate default and collapse of the firm.

In 2007 and 2008, the short-term funding markets unraveled in dramatic fashion. The unraveling started in mid-2007 with the serial failures of a number of big investment conduits that relied heavily on short-term borrowings. The following spring, the crisis spread to the giant repo market—a multi-trillion dollar market in which Wall Street firms finance their securities portfolios on a very short-term basis, typically overnight. Bear Stearns, a major investment bank, collapsed that spring when it lost access to overnight repo funding. Finally, with the

\(^1\) Our usage of the term was truer to its origins. “Shadow banking” was coined in the early stages of the crisis by a prominent economist at PIMCO, the big bond fund manager. He used it in reference to a class of investment conduits that funded themselves with short-term debt. See Paul McCulley, *Teton Reflections*, GLOBAL CENTRAL BANK FOCUS (PIMCO), Sept. 2007, at 2.
bankruptcy of Lehman Brothers in the fall of 2008, all of the short-term funding markets seized up at once. Many key financial markets stopped functioning. Simultaneously, the economy went into free fall. Governments in the United States and abroad launched massive financial rescue operations. Virtually without exception, these emergency response measures were aimed at stabilizing the short-term funding markets.

To our team at Treasury, the short-term funding markets seemed to be dysfunctional: they were prone to damaging panics. We were not alone in reaching this conclusion. On the contrary, we had been deeply influenced by others. A few months before our fall meeting, Fed chairman Ben Bernanke had publicly described the financial crisis as a “classic panic,” which he defined as “a generalized run by providers of short-term funding to a set of financial institutions.”2 Several economists at the New York Fed had been promoting this thesis for some time. Yale economist Gary Gorton had done pioneering work in this area as well; his writings on the short-term funding markets were very influential in the financial policy community. Economist and columnist Paul Krugman had also been an early and perceptive analyst of this problem. Our views at Treasury had been influenced by all of these thinkers.

By no means did we think that shadow banking was the only problem with the financial system. There were other problems too, particularly in the consumer protection area. But our sense was that the fragility of the short-term funding markets was a central problem—perhaps the central problem—for financial stability policy. Any serious program for financial reform, we thought, should address this area directly. In fact, we believed that a coherent regulatory approach to shadow banking might go a long way toward addressing other major issues, such as the vexing “too big to fail” problem. But what if anything should be done?

After our team meeting, I drew up a memo. The title was “Liability Reform.” The memo proposed a system of explicit federal guarantees for the short-term borrowings of financial firms. In return for this guarantee, financial firms that relied on short-term borrowings would be required to pay periodic fees to the government.3 The reasoning behind the proposal was straightforward. During the financial crisis, taxpayers had stood behind the short-term funding markets on a staggering scale, with commitments in the trillions of dollars. If the public was going to stand behind these markets, the memo reasoned, then the public should be compensated for bearing this risk. By the same token, the fees (if properly priced) would end the massive

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public subsidies that accrue to big financial firms by virtue of the prospect of public support. Furthermore, an explicit guarantee presumably would remove the incentive for short-term creditors to engage in panics. In this regard, the longstanding U.S. deposit insurance system provided an instructive model. The establishment of federal deposit insurance in 1933 put a stop to the recurring panics that had previously plagued the U.S. banking system.

The memo generated a fair amount of discussion within Treasury. To be honest, the memo was not very good. (Geithner called it “wacky.”) The proposal as conceived was crude and unworkable, and there were serious drawbacks—moral hazard in particular. Over the subsequent months, the financial reform process went in a very different direction. In July 2010, Congress passed and President Obama signed into law the Dodd-Frank Act, the most far-reaching financial reform bill since the Great Depression. The act was intended to address the root causes of the financial crisis and to prevent a recurrence. It was a massive piece of legislation, with over 800 pages of dense statutory text. But the new law left the short-term funding markets practically untouched.

I doubted that we had succeeded in striking at the root of financial instability. And I believed that the failure had been mostly conceptual, not political. When I left Treasury in 2010 to join academia, I sought to improve upon my initial analysis of the shadow banking problem. This book is the product of that effort.

The direction of this project was shaped by a conclusion that I reached early on. That conclusion was that the shadow banking problem should be viewed as a problem of monetary system design. (Just what I mean by this will soon become clear.) Approaching the topic in this way—asking not “how should we regulate shadow banking” but rather “how should our monetary system be designed”—opened up new lines of inquiry. It situated the shadow banking problem within a more general context, allowing for the integration of topics that traditionally have been analyzed separately. This meant shifting the primary focus from finance to money. Obviously, these are not the same thing. This framing of the problem widened the scope of the project substantially. Indeed, this book is not about shadow banking per se, but rather about a much bigger topic: the design of monetary systems.

My professional background has had an important influence on the way I think about these matters. Before joining Treasury, I worked on Wall Street. My career there had three phases. First I was a corporate takeover lawyer, then an investment banker, and finally a hedge fund trader. I had a particular specialty, which on Wall Street is known as “FIG” (pronounced like the fruit). FIG stands for Financial Institutions Group, and it refers to teams that specialize in investments in financial firms (as opposed to, say, industrial firms or technology firms). My career has afforded me considerable practical experience in asset pricing, transaction structuring, and the valuation of banking and securities firms. This experience provides a useful vantage point from which to approach the topics addressed in this book. It furnishes an uncommon level
of institutional knowledge that is not easily gained through other means, and it provides inoculation against certain kinds of mistakes.

Recent years have seen no shortage of analyses of the problems with modern finance. I suppose this book represents yet another entry in this already overpopulated genre. I believe that it is unique in framing the issue as one of monetary system design. In addition, I hope that this book will distinguish itself in terms of conceptual clarity. This trait has not always been in evidence in the recent and ongoing financial reform debates.

Emblematic of the problem has been the recent fashion for analyzing and measuring something called “systemic risk.” This nebulous concept has yet to be defined, let alone operationalized, in anything approaching a satisfactory way. There is a well-known line from a Molière comedy in which a doctor explains that opium puts people to sleep because it contains a “dormitive property.” This explanation, of course, does no work at all—that’s the joke. It is a kind of tautology: the phenomenon is “explained” in terms of itself. The concept of systemic risk has roughly the same status. If the term were merely used as a catch-all for theories about the sources of financial instability, then it would be harmless shorthand. However, systemic risk has been “thingified” into something that supposedly can be measured and monitored, and even managed through the application of various regulatory techniques. In fact, “systemic risk” has now been embodied (undefined) in U.S. law as an operative legal standard. This reflects, in my view, a lack of discipline and conceptual development in the financial reform process. We have moved forward on the basis of vague ideas about the nature of the problem.

Greater conceptual clarity makes possible, I think, a far simpler approach to reform than the one currently being pursued. Simplicity is of course essential to good design. This is as true in the design of institutions as in the design of anything else. Unfortunately, recent and pending financial reforms have been anything but simple. They are mind-numbingly complex. Some might interpret this extraordinary technical complexity as a hallmark of sophistication. I take exactly the opposite view: this complexity is a sure sign of poor design. We should be aiming for something far simpler. Simple does not, of course, mean simplistic. Oliver Wendell Holmes Sr. (father of the jurist) once distinguished between the simplicity on this side of complexity and the simplicity on the other side of complexity. It is the latter kind that he considered

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6 This quotation is widely attributed to Holmes Sr., but I have not been able to locate its origin.
worthwhile, and it is not easy to get there. Steve Jobs, one of the greatest product designers in business history, made the same point: that simple is harder than complex. “It takes a lot of hard work,” Jobs said, “to make something simple, to truly understand the underlying challenges and come up with elegant solutions.”7

This book offers a design prototype for a monetary system—a fairly simple one at that. It is not a vague statement of principles, but rather a concrete and realistic institutional design. The design is intended to largely replace, rather than to complement, other forms of financial stability regulation. That is to say, I believe that the approach described in this book would enable us to do away entirely with large areas of existing financial stability regulation. While some features of the design may seem unfamiliar at first glance, it is not exotic. In fact, it is best understood as a modernization and simplification of the current monetary architecture.

Apart from serving as a possible basis for future reform, the development of this design prototype offers another advantage: it helps to illuminate the logic and historical development of existing institutions. The analysis will reveal that, despite its design flaws, the existing system of money and banking in many ways embodies a coherent economic logic—one that has not previously been clearly articulated. Surprisingly, much of this terrain has never been systematically explored. I hope that readers will come away with an enriched understanding of existing monetary institutions.

It is important to be clear about what this book is not. This is not a work of “monetary economics”—a field that aspires to science. Rather, this is a work of legal-institutional engineering, which is something quite different. In particular, this book has nothing to say about the optimal conduct of monetary policy (policy rules, targets, etc.). The conduct of monetary policy and the design of monetary institutions are distinct subjects. The latter analytically precedes the former: monetary policy takes place within a given institutional setting. And monetary institutions, like all legal institutions, stand in need of design.

Of course, institutional designers cannot be oblivious to economic reality. On the contrary: just as engineers draw on scientific knowledge, so too we need to develop an understanding of certain features of the economic and financial world. Fortunately, this will not require an elaborate technical apparatus. Simple “toy” models and suggestive empirics will do for our purposes. Many of the building blocks of the analysis already exist in the literature, but in fragmented form. A central task of the book (and a source of its novelty) will be to assemble these elements into a coherent and integrated whole. My hope is that the whole is greater than the sum of the parts.

Whatever the merits of the particular arguments in this book, the importance of the topic would be difficult to exaggerate. The financial crisis and the ensuing economic slump have underscored just how critical these issues are. Nor is this just a sterile matter of dollars and cents. Our current system is unfair: it generates giant public subsidies to large segments of the financial sector, and it has proved to be corrosive to our political culture. I hope to show that the existing system is incompatible with a well-functioning system of free enterprise and with our democratic ideals. Developing a better monetary framework is one of today’s highest policy priorities, and it requires us to think about old problems in new ways.

I hope to reach several audiences with this book: legal scholars and institutionally-oriented economists; financial and monetary policymakers; undergraduate and graduate students of financial and monetary systems; and interested laypersons. This book is intended to be usable in undergraduate and graduate (including law school and business school) courses on financial institutions/money and banking, as a supplement to a traditional textbook. I have tried to make this book nontechnical without sacrificing insight. Some background in finance—especially money and banking—will be useful but not essential.

Portions of this book draw heavily on prior work. Parts of the Introduction and chapters 1, 2, 11, and 12 draw on “Regulating Money Creation after the Crisis,” 1 Harv. Bus. L. Rev. 75 (2011); parts of chapter 3 draw on “Moneyness’ and Bank Runs,” in Inside Money (U. Penn. Press, forthcoming 2013); parts of chapters 4, 6, 7, and 8 draw on “A Regulatory Design for Monetary Stability,” 65 Vand. L. Rev. 1289 (2012); parts of chapter 5 draw on “Money and (Shadow) Banking: A Thought Experiment,” 31 Rev. Banking & Fin. L. 731 (2012); and parts of chapters 1, 9, and 10 draw on “Dealing with Wholesale Funding (Or, What is Banking Law For?),” Capitalism and Society (forthcoming 2013).

I have amassed many intellectual debts in the formulation of the ideas presented here. I am grateful to … [acknowledgments omitted].

References – Preface


Introduction

This book is about the design of monetary institutions. It is also about financial stability. These two topics are closely related; in fact they are inseparable. This book argues that our existing monetary framework is antiquated and defective—and that a redesign of the monetary framework is a prerequisite to financial stability. More than that, such a redesign would largely obviate the need for other forms of financial stability regulation.

These claims are likely to be greeted with a great deal of skepticism. They represent an almost complete departure from today’s conventional wisdom. The generally prevailing view, among specialists and laypersons alike, is that the problem of financial instability calls for more (or better) “financial regulation.” Look at the financial reform debates of the past few years—debates that have occupied many of our leading economic, financial, and legal minds—and you will see hardly any mention of monetary system design. To the extent that the monetary architecture is mentioned at all, the treatment is superficial. Finance, not money, is thought to be the locus of the problem.

Enacted reforms have embodied this prevailing view. The financial crisis of 2007 to 2009 has prompted a staggering array of new financial laws and regulations in the United States. These reform measures have touched virtually every part of the U.S. financial system. But the monetary architecture has been left virtually untouched. This book offers reasons to doubt that recent and pending reforms in the United States (and, by extension, abroad) will bring about a much more stable financial system. Those reforms could turn out to be both costly and ineffective.

The book offers an alternative: a blueprint for a redesign of the monetary system. The redesign would be compatible with other financial stability measures, but it is better understood as a substitute. It would arguably render other measures superfluous. The upshot is that we are not dealing here with some kind of deep and inescapable “failure of capitalism.” Instead, we are confronting a discrete engineering project, an age-old problem of government: how to construct a workable monetary system.

The idea that financial instability is a problem of monetary system design is counterintuitive. It doesn’t mesh with the usual narratives about the recent financial crisis. Indeed, the reader may be wondering what this proposition even means. So this is where we need to start.

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1 To be sure, the pre- and postcrisis conduct of monetary policy has been heavily debated in recent years; but the conduct of monetary policy and the design of monetary institutions are distinct topics.
One View of the Challenge

It is useful to begin by discussing a subject that might initially seem to be unrelated to monetary system design: the subject of “shadow banking.” This term has taken on a variety of meanings lately, but this book will use it in a very precise way. For our purposes, “shadow banking” refers to the activity of funding portfolios of financial assets with short-term debt. The “shadow banking system” is just the set of entities that engage in this activity.

The concept of shadow banking (as used herein) is more or less interchangeable with the short-term debt of the financial sector. Practically speaking, they are the same thing. The markets for this short-term debt—often called the “short-term funding markets,” the “wholesale funding markets,” or just the “funding markets”—are described in some detail in chapter 1. These markets are huge, and they were at the center of the recent financial crisis. In 2007 and 2008, the short-term funding markets unraveled in a series of classic panics. From the perspective of finance practitioners and policymakers, these panics were virtually synonymous with the financial crisis. The panics themselves were the emergency, and they coincided with the start of a severe economic slump.

This book argues that when it comes to financial stability policy, panics—widespread redemptions of short-term debt—should be viewed as “the problem” (or the main one anyway). More to the point: panic-proofing, as opposed to, say, asset bubble prevention or “systemic risk” mitigation, should be the central objective of financial stability policy. There will be much more to say about these matters later.

We do of course have a policy response to panics, but it has major problems. The modern answer to panics consists of an implicit, open-ended commitment of public support, via the lender of last resort and other facilities, for large segments of the financial sector. The very prospect of public support introduces potentially severe distortions into the financial system. It encourages the growth of individual financial firms and the financial sector as a whole; it rewards high degrees of leverage and generates an oversupply of credit; and it perversely subsidizes the financial sector through artificially low funding costs. These are not novel claims, but they do suggest that our modern approach to panic-fighting might itself bear substantial responsibility for many of the apparent pathologies of modern finance.

So what does the financial sector’s short-term debt (i.e., shadow banking) have to do with the monetary system? Gary Gorton, a leading expert in this area, has observed that “the ‘shadow banking system’ is, in fact, real banking.” This is an important insight. The activity of shadow banking clearly bears a close resemblance to ordinary deposit-banking. Both shadow banking entities and deposit-banks hold portfolios of financial assets that they fund largely with very

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short-term IOUs. In the case of deposit-banks, those IOUs take the form of deposit instruments. In
the case of the shadow banking system, those IOUs consist of the myriad instruments of the
short-term funding markets. But the basic structure is the same. Due to this heavy reliance on
short-term funding, both business models are inherently susceptible to a liquidity crisis or “run”
in which short-term claimants seek to redeem simultaneously.

So far so good; this comparison between shadow banking and deposit-banking has
become fairly standard. But the comparison can be taken one step further. It is a truism of
finance that deposit-banks are in the money creation business. Every student of introductory
economics learns how this works. Deposit-banks issue special instruments called “deposits” that
function as money.\footnote{Some readers may be unaccustomed to thinking of a deposit as an “instrument” that a bank “issues,” but that is in
fact what it is. Chapter 2 elaborates on this topic.} This is a legally privileged activity: only licensed deposit-banks are
authorized to issue these instruments. And they issue these instruments in amounts that far exceed
their holdings of government-issued (or “base”) money. This is what it means to say that
deposit-banks operate on a “fractional reserve” basis: they hold reserves of base money equal to
only a fraction of their outstanding checkable deposits. Deposit-banks, then, really do augment the
money supply.

Here we come to a threshold conceptual step: it turns out that the shadow banking system
creates money too. The short-term IOUs that are issued by shadow banking entities are widely
understood to be close substitutes for deposit instruments. For accounting and other purposes,
these short-term debt instruments are called “cash equivalents.” Corporate treasurers and other
businesspeople just call them “cash.” Economists sometimes refer to them as “near money” or
“quasi money.” Central bankers include many of these instruments in their broad measures of
the money supply. Not coincidentally, the market for these short-term IOUs is known in the
financial world as the money market, as distinct from the more familiar capital market in which
stocks and ordinary bonds are traded.\footnote{The idea that these instruments have monetary attributes is not a new one; it has a long background in the academic
literature See chapter 1 for a discussion. For an engaging history of the historical debates over the definition of money (starting from the eighteenth century), see the second chapter of MILTON FRIEDMAN AND ANNA J. SCHWARTZ, MONETARY STATISTICS OF THE UNITED STATES (1970).} Shadow banks hold fractional reserves too: just as the
deposit-banking system issues deposit instruments in amounts that far exceed its total cash
holdings, so too the shadow banking system issues cash equivalent instruments in amounts that
far exceed its total cash holdings.\footnote{Shadow banking entities generally hold their cash reserves in the form of deposit instruments, rather than the base
money reserves that deposit-banks hold. Still, the basic economic structure is identical.}

Now, these cash equivalent instruments might not really seem like “money.” In
particular, they are not typically used directly as a means of payment—a textbook attribute of
money. In this respect, cash equivalents look like ordinary bonds. An important task ahead will be to clarify what it means to say that cash equivalent instruments have monetary attributes, whereas other financial instruments—like longer-term bonds, or shares in equity mutual funds—do not. The answer is not obvious, and it is not just a matter of asset “liquidity.” This will be a central topic but one that we can defer for now.

Shadow banking, then, appears to be a monetary phenomenon, not just a financial one. This distinction might seem subtle, but it is conceptually significant. It implies that the shadow banking problem is bound up with the institutional structure of the monetary system. In other words, the question “what to do about shadow banking” is inseparable from the question “how should our monetary system be designed.” This recognition should not be very controversial; it emerges naturally from the analogy between shadow banking and deposit-banking. Interestingly, though, the shadow banking system is seldom discussed in this way.

What would it mean to take this monetary perspective on shadow banking seriously? Money creation has important macroeconomic implications; the study of money is of course central to macroeconomics. And deposit-banks have long been viewed as special by virtue of their monetary function. In particular, disruptions in the deposit-banking sector can and do have major effects on macroeconomic conditions. In a classic analysis, Milton Friedman and Anna Schwartz argued that the Great Depression was the product of a monetary contraction that was caused by waves of banking panics. “[T]he [bank] failures,” they wrote, “were the mechanism through which a drastic decline was produced in the stock of money.”\footnote{MILTON FRIEDMAN & ANNA J. SCHWARTZ, A MONETARY HISTORY OF THE UNITED STATES, 1867–1960, at 351 (1963).} And the economic devastation that followed was “a tragic testimonial to the importance of monetary forces.”\footnote{Id. at 300 (emphasis added).}

The impact of Friedman and Schwartz’s study was profound. Fed chairman Ben Bernanke has described their achievement as “nothing less than to provide what has become the leading and most persuasive explanation of the worst economic disaster in American history, the onset of the Great Depression.”\footnote{Ben S. Bernanke, Governor, Fed. Reserve, “Address at the Conference to Honor Milton Friedman: On Milton Friedman’s Ninetieth Birthday” (Nov. 8, 2002). Bernanke went on to describe his own seminal contribution in this area as “simply an embellishment of the Friedman-Schwartz story.”} The relevance of the Friedman-Schwartz thesis to the shadow banking phenomenon is not hard to see. If the shadow banking system performs a monetary function similar to that of deposit-banking, then presumably it also carries similar macroeconomic significance.

This line of reasoning raises fundamental questions of institutional design. For the legal distinction between deposit-banking and shadow banking is striking. Consider deposit-banks
first. In recognition of their special role in money creation, deposit-banks have long been required to submit to a uniquely extensive regulatory regime. No other competitive industry is subject to remotely comparable regulatory constraints and oversight. In the United States, deposit-banks face detailed chartering criteria; strict limitations on permissible activities and investments; leverage limits (capital requirements); special restrictions on affiliations and affiliate transactions; base-money reserve requirements; extensive onsite supervision; a vigorous enforcement regime; a special receivership regime in the event of failure; and so on. Deposit-banks are also the beneficiaries of extraordinary government stabilization facilities—namely, central bank loans and deposit insurance—that are (normally) unavailable to other firms.

By virtue of submitting to this regulatory regime, deposit-banks are endowed with an extraordinary legal privilege: they are licensed to issue deposit instruments. This privilege is accompanied by a logical corollary: enterprises other than licensed deposit-banks are legally prohibited from issuing these instruments. This remarkable prohibition might be described, both logically and historically, as the “first law of banking.”

It is worth dwelling on this point for a moment. In formal terms, a deposit instrument is merely a variety of IOU. The law prohibiting unlicensed firms from issuing deposit instruments establishes a sweeping limitation on freedom of contract: parties not licensed as deposit-banks are legally ineligible to be obligors under this particular type of IOU. Conversely, firms that do not issue “deposit” IOUs are free from the extraordinary regulatory and supervisory regime just described. Thus banking law begins by confining the issuance of deposit instruments to a special class of licensed entities. Indeed, the authority to issue deposit instruments is the very legal privilege that a banking charter conveys.

Contrast the shadow banking system. Shadow banking entities have no legal or regulatory status as such. The issuance of cash equivalent instruments—the hallmark of shadow banking—requires no license. This activity takes place pursuant to generally applicable background rules of property and contract. It is not legally confined, nor is it surrounded by the elaborate institutional architecture of the deposit-banking system. What justifies this differential legal status? Assume for the moment that the monetary function of deposits is, in fact, what

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9 In the United States this prohibition is embodied in state law. In New York state, “[n]o corporation, domestic or foreign, other than a national bank or a federal reserve bank, unless expressly authorized by the laws of this state, shall employ any part of its property, or be in any way interested in any fund which shall be employed for the purpose of receiving deposits ….” N.Y. BANKING LAW § 131. In California, it is unlawful for any person or business entity to “to engage in or transact commercial banking business … within this state except by means of a corporation duly organized for that purpose,” and a commercial banking business is defined as “the business of soliciting, receiving, or accepting of money or its equivalent on deposit as a regular business ….” CAL. FIN. CODE. § 354 and § 105.2. Other states have similar laws.

10 If a deposit-bank were to replace its deposit obligations with bond financing, it would be transformed into an ordinary finance company—a business model for which no special charter is required.
justifies the extraordinary regulation of their issuers. If cash equivalents perform a monetary function too, then perhaps the law of banking rests on an arbitrary and formalistic distinction—a basic misidentification. That is, perhaps the starting point for banking law should be not the deposit instrument, but rather the broad array of short-term IOUs that serve a monetary function.

This analysis reveals a point that has vital implications for institutional design: given the existence of some established medium of exchange, entrepreneurs can set up a distinctive “money creation” business model whose liabilities consist largely of instruments that are redeemable for that existing money on demand or in the very near term. (Why entrepreneurs would want to use such a funding model is a topic we will come to later; the short answer is that it is profitable.) The portfolios of these enterprises tend to consist mostly of longer-term financial assets, like loans and bonds. This is the familiar business model of banking—or shadow banking, as the case may be. Crucially, \textit{in the absence of any special legal impediments}, this business model can arise through the operation of standard rules of property and contract. No other legal tools are needed. The law of deposit-banking, however, establishes just such a legal impediment. It is the first law of banking: no person or entity may issue redeemable instruments styled as “deposits” unless it has a special charter to do so.

It is important to recognize that the activity under discussion here is not just “financial intermediation” in some generic sense. This is a common source of misunderstanding, even among experts. Take a couple of common examples of financial intermediaries: say, finance companies and equity mutual funds. These sorts of firms connect sources and uses of financing; that is what it means to be a financial intermediary. But they do not issue instruments that function as money. Neither the bonds of finance companies nor the shares of equity mutual funds are close substitutes for deposit instruments. They cannot be classified as “cash equivalents” for accounting purposes; corporate treasurers do not call them “cash”; economists do not call them “near money”; they have never been included in monetary aggregates; and they are considered to be part of the capital market, not the money market. Again, an analysis of precisely what it means to say that certain instruments (short-term IOUs) are “monetary” and others are not will need to await chapter 1. For now, the important point is that the business model we have been discussing is a distinctive one.\footnote{Not everyone shares this view. Consider the following from one of our leading legal and economic thinkers, Richard Posner. “The genus of which ‘bank’ is one of the species is ‘financial intermediaries,’” he writes. “[F]or most of my purposes in this book, all financial intermediaries can be regarded as ‘banks’ …. There isn’t that much difference anymore even between a commercial bank and a hedge fund.” \textsc{Richard A. Posner, A Failure of Capitalism} 19 (2009). Posner does go on to observe that commercial banks have a distinctive role in “expanding and contracting the supply of money,” \textit{id.} at 20. But the clear import of the passage (and the book) is that this distinction is not very important, at least when it comes to understanding the recent financial crisis and evaluating financial reforms.}
One sometimes hears that banking regulation should be “extended” to the shadow banking system, but this argument misapprehends the basic structure of banking law. To see why, imagine what it would mean to “extend” banking regulation to, say, a big securities dealer that relies heavily on short-term funding. It was noted above that U.S. deposit-banks are strictly limited in their permissible activities and investments. Let’s now be a little more specific. In the United States, deposit-banks are basically limited to holding diversified portfolios of credit assets (loans and investment grade bonds). They may not own junk bonds or equity securities, and their derivative activities are highly circumscribed. So deposit-banks just are not allowed to own many of the kinds of assets that securities dealers hold as a part of their core business. More fundamentally, deposit-banks are explicitly prohibited from engaging in securities dealing (with very narrow exceptions). Simply put, if deposit-banking regulation were “extended” to a securities dealer, it could no longer be a securities dealer.

It might be argued that these activity and portfolio constraints should be relaxed in the case of a securities dealer. But this is a strange argument; those constraints are part of the very core of banking regulation! Remember, banking law starts by confining the issuance of deposit instruments to a special class of licensed entities that must abide by all sorts of requirements, including strict activity and portfolio constraints. If cash equivalents function as deposit substitutes, then the natural question is whether their issuance should also be so confined. In other words, the question is not whether banking regulation should be “extended” to (for example) securities dealers, but rather whether securities dealers should be prohibited from issuing cash equivalents, just as they are now prohibited from issuing deposits. We are talking here about updating the first law of banking—the general prohibition that is the starting point for banking law.

Here is a simple way of thinking about it. Imagine that the legal definition of “deposit” were amended to encompass all of the various types of short-term funding instruments on which the financial sector relies. In that case, only licensed deposit-banks would be authorized to issue cash equivalents. In effect, this would mean the end of “shadow” banking: the activity of

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13 For that matter, they are also prohibited from securities underwriting, insurance underwriting, and owning real estate apart from their own premises, in each case with narrow exceptions. 12 U.S.C. § 24 (Seventh) (securities dealing and underwriting); 15 U.S.C. § 6712(a) (insurance underwriting); 12 U.S.C. § 29 (real estate). The activity restrictions and portfolio constraints described here are entirely distinct from restrictions on affiliations—such as those embodied in the old Glass-Steagall regime. Affiliation restrictions are designed to limit the types of activities that may be carried on under common ownership with a deposit-bank—that is, within the same corporate group. For a more detailed discussion, see infra at __.
funding portfolios of financial assets with large quantities of short-term IOUs would be legally confined to the licensed deposit-banking system. We would then have a single set of licensed money-creation firms, operating under terms and conditions established by the state.

**The Broader Context**

This discussion has offered a glimpse of the kinds of questions with which this book is occupied. To bring these questions fully into view, it is useful to situate the foregoing discussion within a more general context. Some taxonomy will help. Consider the “cash and equivalents” line on the asset side of the balance sheet of an operating company, say IBM. We tend to think of this as just “cash” or “money”—and that is what IBM’s managers surely call it—but of course in reality it consists of specific kinds of instruments. What are they exactly? There are three basic categories. First, there is government-issued physical currency. (IBM probably has only a tiny amount of this.) Second, there are (checkable) bank deposit instruments, which the company uses to make virtually all of its payments. And third, there are the various instruments of the short-term funding markets: cash equivalents.\(^{14}\)

Let’s look more closely at these three categories. The following table summarizes some of their essential legal-institutional attributes (the focus here is on the United States, but other jurisdictions are similar):

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\(^{14}\) Included within cash equivalents are MMF shares, a familiar type of instrument. MMF shares are, however, just one type of cash equivalent. IBM’s 2011 annual report discloses cash and equivalents of $11.9 billion. Of this, $3.4 billion is cash, virtually all of which is presumably checkable deposits. That leaves $8.5 billion in cash equivalents, which IBM defines (in accordance with the applicable accounting standard) as “all highly liquid investments with maturities of three months or less at the date of purchase.” Of this $8.5 billion, only $1.9 billion consists of MMF shares. The rest are various other types of highly liquid, short-term IOUs.
Table 1.1 Characteristics of Existing Monetary Instruments

<table>
<thead>
<tr>
<th>Monetary Instrument</th>
<th>Privileged Issuance?</th>
<th>Sovereign vs. Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical currency</td>
<td>Yes</td>
<td>Sovereign</td>
</tr>
<tr>
<td>Bank deposits</td>
<td>Yes</td>
<td>Sovereign (insured) and Private (uninsured)</td>
</tr>
<tr>
<td>Cash equivalents</td>
<td>No</td>
<td>Private (mostly)</td>
</tr>
</tbody>
</table>

The first row, physical currency, has been lurking in the background so far. We can now bring it forward. In modern monetary systems, physical currency is “fiat” currency, meaning that it lacks intrinsic value and isn’t redeemable for anything else. The table indicates that the issuance of physical currency is legally privileged: having issued currency, the state prohibits others from producing identical instruments (this is the subject of anti-counterfeiting law). Physical currency is also sovereign in status. This simply means that it represents a commitment of the state and not of any private entity.

Next consider bank deposits—the predominant medium of exchange in modern economies. We have already seen that their issuance is a privileged activity: it is legally confined to a special class of licensed entities (deposit-banks) that operate under terms and conditions established by the state. In addition, some deposit instruments—those that are federally insured—are sovereign in status, meaning that the government commits to honor them. Uninsured deposit instruments, on the other hand, are private obligations and are susceptible to default.

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15 The three categories of monetary instruments in this table roughly correspond to conventional measures of the money supply, commonly denoted “MB,” “M1,” “M2,” and “M3.” Physical currency belongs to MB, or the “monetary base.” Deposit instruments that are payable on demand belong to M1, which consists of types of money commonly used for payment. Some important cash equivalents are included in M2 and M3, which are broader measures of the money supply. The Federal Reserve stopped reporting M3 in 2006, but other central banks, including the European Central Bank, do report M3 measures. The ECB’s M3 aggregate includes highly liquid debt securities with maturities of up to two years.

16 The concept of “intrinsic” value is admittedly rather slippery; I’m just making the obvious point that a $20 bill is worth more than the paper it’s printed on. See chapter 3 for a brief discussion of the value of fiat money.
The third category is cash equivalents. As we saw above, their issuance generally is not a legal privilege. Most cash equivalent instruments have no legal or regulatory status as such. They are issued (in immense quantities) pursuant to standard rules of property and contract. There are no legal restrictions on the issuance of cash equivalents, and they reside outside the purview of monetary authorities. In addition, cash equivalents generally are private obligations and are susceptible to default.

This taxonomy raises some basic questions of institutional design. The first and most fundamental question is why the government should involve itself in monetary matters in the first place. We can safely stipulate that money serves a vital function in a market economy: it makes exchange much easier. But it does not follow that the state needs to have a role here. The state might instead leave it entirely to “the market” to establish a monetary framework. It could exit the monetary business altogether, including the issuance of physical currency.

In the area of money, however, the pure laissez faire approach—under which the state would withdraw completely from monetary affairs—has few advocates.17 Money, or the monetary system, is widely acknowledged to have the attributes of a public good. If this is the case, then “the market” (as constituted by the legal institutions of property and contract) should not be expected to generate satisfactory monetary arrangements through some kind of spontaneous process. Milton Friedman, a champion of laissez faire in other areas, gave concise expression to this point of view:

Something like a moderately stable monetary framework seems an essential prerequisite for the effective operation of a private market economy. It is dubious that the market can by itself provide such a framework. Hence, the function of providing one is an essential governmental function on a par with the provision of a stable legal framework.18

More recently, another Nobel-laureate economist with equally impeccable laissez faire credentials, James M. Buchanan, made a similar argument. “The market will not work effectively with monetary anarchy,” he wrote. A well-functioning market system requires

17 Friedrich Hayek is an important exception. See FRIEDRICH A. HAYEK, THE DENATIONALISATION OF MONEY (1976) (3rd ed. 1990). Some economists in the “free banking” school also favor a complete government exit from monetary affairs; more on this below.

18 MILTON FRIEDMAN, A PROGRAM FOR MONETARY STABILITY 8 (1960). Friedman and his coauthor Anna Schwartz later revisited these comments and reached a somewhat ambiguous conclusion. Contrary to Hayek, they expressed skepticism that the market might generate “competing, efficient and safe fiduciary currencies with no role for governmental monetary authorities ....” Milton Friedman and Anna J. Schwartz, Has the Government Any Role in Money?, in MONEY IN HISTORICAL PERSPECTIVE 311 (1987). The authors are more favorably disposed toward the idea that a commodity-based currency might arise through market forces alone. They acknowledge the resource cost of such a system, but they contend that fiat money generates resource costs too because private actors may choose to hoard commodities as an inflation hedge. Whether a fiat system or a commodity system leads to greater resource cost is, they say, “a challenging task for research.” Id. at 310. Ultimately the authors conclude on a note of pragmatic conservatism; they decline to advocate governmental withdrawal from monetary affairs.
“stability in property rights, contracts, and money.” And monetary stability is a “public good, in the terminology of welfare economics.” Buchanan went on to conclude that “[c]learly some defined process and institutional structure must be established” over monetary affairs.19

If the government is going to establish a monetary framework then it must decide how best to do so. In this regard it faces some basic design choices. An initial set of choices is evident in the “privileged issuance” column in the table above. Let’s suppose that the state has successfully put some amount of fiat paper money into circulation, by whatever means.20 Assume also that it has put appropriate anti-counterfeiting laws into place and is enforcing them adequately. As we have already seen, given the existence of this established medium of exchange, entrepreneurs can set up a money-creation business model (in other words, a bank) using generally available legal technologies. A threshold question for the state is whether to impose any limitations on this private activity; that is, whether the issuance of monetary instruments should be established as a legal privilege. The notion that the state should leave this activity unhindered—a proposal that sometimes goes by the name “free banking”21—embodies a commitment to freedom of contract in this area. Note however that both theory and history suggest that this business model is prone to damaging panics. (This is a topic that we will

19 James M. Buchanan, The Constitutionalization of Money, 30 CATO J. 251 (2010). Whether money satisfies the usual standards for a public good is a subject of some debate. Lawrence H. White has argued that money does not in fact meet those standards. See LAWRENCE H. WHITE, THE THEORY OF MONETARY INSTITUTIONS, 88-119 (1999). Other prominent economists have taken the contrary position. Nobel laureate Kenneth Arrow has said that “[t]he creation of money is in many respects an example of a public good.” Kenneth J. Arrow, The Organization of Economic Activity: Issues Pertinent to the Choice of Market versus Non-market Allocations, in ANALYSIS AND EVALUATION OF PUBLIC EXPENDITURES: THE PPP SYSTEM 48 (J. Econ. Comm. of Cong. 1969). Likewise, prominent monetary economist David Laidler has characterized money as a public good; he concludes that “it appears that government is after all an inherent part of an economically efficient solution to monetary problems.” DAVID LAIDLER, TAKING MONEY SERIOUSLY (1990). This topic is worthy of further research and analysis, but it will not be pursued herein. We will take it for granted that a workable monetary framework should not be expected to arise ex nihilo from “the market.” On this point, the present book falls squarely in the mainstream.

20 This book does not address the merits of commodity money (i.e., money that is made out of or redeemable for some form of commodity, such as gold). We will concern ourselves with the design of fiat monetary systems. The difficulties with a commodity standard have been dealt with extensively elsewhere. Ben Bernanke recently gave a concise summary. See BEN S. BERNANKE, THE FEDERAL RESERVE AND THE FINANCIAL CRISIS 10-14 (2013). For critiques of the gold standard that emphasize the instability of the value of gold in relation to other goods, at least in the short run, see Paul Krugman, The Gold Bug Variations, SLATE (Nov. 22, 1996); Scott Sumner, The Case for Nominal GDP Targeting, Mercatus Center (2012).

21 Noteworthy contributions in this area are WHITE, supra note ___; GEORGE A. SELGIN, THE THEORY OF FREE BANKING (1988); DAVID GLASNER, FREE BANKING AND MONETARY REFORM (1989). Sometimes the term “free banking” is used to refer to a completely laissez-faire approach to money, but this usage is not universal. Friedman and Schwartz use the term as it is used herein, to refer any regime in which no restrictions are placed on the issuance of private/redeemable (“inside”) money. Friedman and Schwartz, supra note ___, at 293.
examine in detail.) Perhaps for this reason, free banking has not been the historical norm.\textsuperscript{22} The issuance of deposit instruments and their historical predecessors, bank notes, has almost always been a legal privilege.

Suppose the state were to conclude that free banking is dubious—that legal constraints should be placed on the activity of issuing redeemable instruments that function as money. (This is the first law of banking.) The state might then adopt the familiar licensing approach: it might permit only selected third parties to issue these instruments, under terms and conditions established by the state. But if the state sees problems with this activity—problems that justify curtailing freedom of contract—then why let any third parties do it at all? After all, the state could make itself the exclusive issuer of monetary instruments, whether via a state-owned “bank” or through some other institutional arrangement. This would entail prohibiting all third parties from creating money; the government would retain a monopoly on money creation. Lest this idea seem farfetched, it is worth noting that one version of this proposal, called “100% reserve banking,” has a very distinguished intellectual lineage.\textsuperscript{23}

Either way—whether the government grants the privilege of issuing monetary instruments to selected third parties, or retains the privilege exclusively for itself—the government needs to specify the precise content of the privilege. A legal privilege logically implies a legal prohibition: parties without the privilege are prohibited from doing something. So what exactly is the government prohibiting? Is it just the issuance of redeemable instruments styled as “deposits”? Or should the prohibition extend to the issuance of cash equivalent instruments, defined on a functional basis? This is the question that we encountered above in the shadow banking discussion: whether there is a respectable basis for the differential legal status of deposits and cash equivalents. It is clear now that this is one aspect of a broader design problem.

Turning to the “sovereign vs. private” column, we encounter another set of design choices. Government-issued fiat money, such as physical currency, is inherently sovereign in status; dollar bills are not susceptible to default. But if the government chooses to license third parties to issue redeemable monetary instruments, then those instruments are another matter. The state has two options here. The first would be to leave these instruments as private (defaultable) contractual obligations. And the second option would be for the state to accord sovereign status to these instruments: think deposit insurance. In the latter case, the state would

\textsuperscript{22} The period from 1836 to 1863 is the so-called “Free Banking Era” in U.S. banking history, but as others have pointed out, this is a misnomer. Banks during that period were subject to strict portfolio constraints and other regulatory requirements.

\textsuperscript{23} Proponents have included Irving Fisher, Milton Friedman, and Gregory Mankiw. See chapter 6 for a discussion.
elevate these third-party instruments to a status resembling that of state-issued fiat currency, making them sovereign and default-free.

This is of course a much debated topic. Historically, deposit insurance systems seem to have had remarkable benefits in terms of preventing accountholder panics. On the other hand, such systems give rise to well-known incentive problems, encapsulated by the term “moral hazard.” Whether these incentive problems can be successfully mitigated through the application of various regulatory techniques is an important question. A related question is whether the government should limit the scope of its commitment. Under the current U.S. system, for example, federal deposit insurance is capped at $250,000 per account. This coverage limit reflects a consumer protection philosophy: small-balance accountholders presumably lack the capacity to monitor bank solvency. But if we view deposit insurance through the lens of panic-prevention instead of consumer protection, then the justification for coverage limits becomes far less clear.²⁴ As we will see in future chapters, in the recent crisis, sophisticated institutional accounts were far more likely than small retail accounts to redeem en masse, precisely because they were paying closer attention. If panic-prevention is a key goal, then coverage limits may very well undermine it.²⁵ Finally, the subject of cash equivalents arises here too. If the government sees fit to accord sovereign status to “deposit” instruments, does the same logic apply to cash equivalents?

Still other questions suggest themselves. If the government chooses to license third parties to engage in money creation, under what terms and conditions should they operate? How should we think about the relationship between this activity and the direct issuance of base money by an arm of the state, such as a state-owned central bank? And how (if at all) should the

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²⁴ Former Federal Reserve vice chairman Alan Blinder (together with a coauthor) has written that “[t]he U.S. government is in the deposit insurance business mainly to enhance macroeconomic and financial stability,” and that “protecting the small depositor is an incidental benefit, not the main social purpose of deposit insurance.” Alan S. Blinder and Robert F. Wescott, Reform of Deposit Insurance: A Report to the FDIC (2001). Other banking experts have reached similar conclusions. According to one such expert:

[I]t is clear from both the statements and actions of many proponents and administrators of bank-obligation insurance systems that the primary object has not been to guard the individual depositor or noteholder against loss but, instead, to restore to the community, as quickly as possible, circulating medium destroyed or made unavailable as a consequence of bank failures. In this view, bank-obligation insurance has a monetary function, and the protection of the small creditor against loss is incidental to the achievement of the primary objective.

Carter H. Golembe, The Deposit Insurance Legislation of 1933, 75 Pol. Sci. Q. 181 (1960). Friedman and Schwartz expressed their agreement with Golembe, writing that “protection of the circulating medium rather than protection of the small depositor against loss was the overriding concern of the legislators in establishing” federal deposit insurance in the United States. Friedman & Schwartz, supra note __, at 435.

²⁵ In the midst of the recent crisis, certain noninterest bearing transactions accounts were insured up to an unlimited amount. This was the FDIC’s “Transaction Account Guarantee,” launched in October 2008 as a panic-containment device.
government exercise control over the aggregate supply of monetary instruments? These questions subsume a variety of others: about the operation of monetary policy; about the administrative independence of the monetary authority from the fiscal authority; about the mechanics of the payment system; and about “seigniorage,” the term that economists and central bankers use to denote government revenue that arises from money creation.

It should be clear that we are dealing with a multifaceted institutional design challenge. Given the importance of the topic, it would be natural to assume that these issues must already have been fully thought through. Surprisingly, they have not. The basic legal-institutional design considerations that are pertinent to the establishment of a monetary system have never been very well articulated. Look for instance at the standard textbooks on money and banking, macroeconomics, and financial regulation. This is where one might expect to see a systematic treatment of these questions; but it is not to be found. To be sure, the textbooks do provide scattered discussions of some of the topics mentioned above, at varying degrees of depth. However, many of the most basic design questions are not even posed, let alone analyzed, in the standard textbooks. These works fail to offer a minimally adequate analysis of the basic design choices that underlie the monetary framework.

Looking beyond the textbooks, one finds a handful of book-length treatments of the topic of monetary system design. We will encounter these as the book proceeds; they include such classic works as Walter Bagehot’s astounding *Lombard Street: A Description of the Money Market* (1873) and Milton Friedman’s *A Program for Monetary Stability* (1960). Despite their remarkable insights, these and other scholarly efforts in this area have major shortcomings. This book argues that they overlook critical design considerations. And these shortcomings in turn explain the inadequacies of the standard textbooks. The textbooks reflect the state of the theory—but the theory is seriously underdeveloped. A consequence of this situation is a widespread tendency to view existing monetary arrangements, many of whose features are accidents of history, as somehow necessary or natural.

What is needed then is a comprehensive and integrated treatment of these issues, starting from first principles. The central question boils down to this: How would we design a monetary system if we were starting from scratch? This is not a question that can be answered at the level of abstract principle. This book offers a specific approach—a design prototype for a monetary system. The approach is concrete, and it is administratively feasible. It relies to a large extent on institutional structures and techniques that have been in active use for some time. It is also relatively simple, at least in comparison to the various approaches to financial stability regulation that are currently being pursued in the United States and abroad.

It should now be apparent what it means to say that financial instability is a problem of monetary system design. The short-term IOUs of the financial sector are monetary instruments, and a panic—what Bernanke called a “generalized run by providers of short-term funding to a
set of financial institutions”—is a defining feature of financial crises. To quote University of Chicago economist Doug Diamond, a leading theorist in this area: “Financial crises are always and everywhere about short-term debt.” This is perhaps an exaggeration, but only a slight one.

It is useful now to sketch the broad outlines of the design prototype. This sketch will be fleshed out in Part III. In the meantime, it will serve to orient the reader as the book proceeds.

A Design Sketch

For convenience, we can refer to the design prototype as the “newbanking system.” If implemented, the newbanking system would represent a modernization of the existing U.S. system of money and banking. Existing deposit-banks would become newbanks. Their charters would be converted into newbank charters, and they would operate under a revised set of terms and conditions and within a modified institutional setting.

For purposes of exposition, it is easier to describe the newbanking system from the ground up, instead of as an evolutionary transformation of the existing monetary framework. Actual implementation would raise some tricky transitional issues, but they can be discussed later. What is described here is the end state. As we will see, the newbanking system has quite a lot in common with our existing system of money and banking—but there are crucial differences.

Medium of exchange. We will imagine our prototype monetary system to be one without physical currency. That is, the medium of exchange does not exist in tangible (bearable) form. By no means is this an essential feature of the newbanking system; physical currency could easily be accommodated, and there may be good reasons to do so in practice. But the system is much easier to describe if we imagine there to be no physical currency. And clearly there is no magic to bits of paper.

Furthermore, in describing newbanking, we will not use the term “deposit.” That term is problematic on a number of levels. For one thing, it connotes a place of storage, which brings to mind misleading imagery. For another, it is commonly employed to refer both to instruments

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26 I am aware that this term has Orwellian overtones, but I haven’t come up with anything better.

27 The world may be moving in this direction anyway. See “Sweden Moving Toward Cashless Economy,” Associated Press (Mar. 18, 2012). In Italy, transactions in physical currency reportedly are now limited to payments under €1,000.

28 Milton Friedman and Anna Schwartz make a similar observation. They note that their monetary statistics rely on data “reported by the banking institutions whose liabilities are so misleadingly termed ‘deposits’ ….” They elaborate in a footnote: “Misleadingly, because ‘deposit’ connotes the placing of something in safekeeping, as in a 100 per cent reserve banking system.” A fractional-reserve bank, they point out, is not a “depository institution, in any literal sense.” MILTON FRIEDMAN AND ANNA J. SCHWARTZ, MONETARY STATISTICS OF THE UNITED STATES: ESTIMATES, SOURCES, METHODS 59 (1970).
that serve as a medium of exchange (demand deposits) and to a very different class of instruments that resemble ordinary bonds (long-term “time” deposits). So we will do without this term.

In the newbanking system, the medium of exchange exists only in *record* form, not physical form. Because it exists only in record form, we will refer to it simply as “r-currency.” R-currency is issued only by licensed newbanks. It is denominated in the standard monetary unit (e.g., dollars in the United States). It functions just like today’s demand deposit instruments, except that it is not redeemable for physical currency, which does not exist. Agents in the economy hold r-currency accounts, and each newbank maintains a ledger (presumably an electronic ledger or database) reflecting its customers’ accounts. Payments in the economy are made through assignments (transfers) of r-currency. The technology of assignment—whether it is a check, an electronic transfer, a card swipe, or some other mechanism—is not important. This is a minor detail of transaction processing; any or all of the foregoing technologies would work.

Why does anyone ascribe value to r-currency if it is not redeemable for physical currency? The answer is: for the same reason that people ascribe value to fiat physical currency today. Under the newbanking regime, the government declares r-currency to be legal tender and, more importantly, accepts it in payment of taxes. Hence the legal-institutional environment assures that r-currency is valued. That is how fiat money always works, of course. Because it is not redeemable, r-currency is not susceptible to default, any more than today’s dollar bills can default. There is no “coverage cap” on the sovereign status of r-currency; in this respect, r-currency differs from today’s federally insured demand deposits (with their $250,000 cap per account). Thus all r-currency is sovereign, fiat money. And r-currency bears no interest—again, like today’s physical currency.

This description raises an important point of contrast. Under today’s system of money and banking, there are two common media of exchange: physical currency and demand deposit instruments. They are not of equal status. The latter is redeemable for the former, but not vice versa. This asymmetry is encoded in the basic vocabulary of money and banking: modern physical currency is described as “base money,” “high-powered money,” or “outside money,” whereas demand deposit instruments are a form of “bank money,” “private money,” or “inside money.” Under newbanking, this two-tiered structure does not exist. There is one medium of exchange. Even if physical currency were introduced, it would have precisely the same legal and economic status as r-currency. And even if the state chose to establish a “central” bank (a topic

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29 This is not to say that the value of fiat money is determined mechanically by expected future tax burdens. See chapter 3 for an exploration of this topic.

30 Monetary economist Nick Rowe aptly describes this structure as one of “asymmetric redeemability.”
we will come to shortly), the r-currency issued by that entity would be exactly the same as other r-currency. The newbanking system establishes a single, legally and economically uniform medium of exchange.

If r-currency seems weird or exotic, it shouldn’t. At the risk of belaboring the point: it works just like a fully insured checkable deposit. The government, instead of committing to honor these instruments with some kind of fiat “base” money, simply declares these instruments to be fiat money. In economic substance, these two approaches are the same thing. So r-currency should seem quite familiar. Readers who find this in any way weird may simply be grappling with the weirdness of fiat money itself, not with its particular institutional realization under newbanking.

At any rate, readers who find this weird are the very reason for introducing the r-currency terminology and for omitting physical currency from this discussion. The term “deposit” and the presence of bits of paper tend to be conceptually distracting—even for many specialists. They encourage us to think of money as something that is “in” the bank, or that the bank “takes” and then “lends out,” instead of as an instrument that the bank issues. (There will be more to say about these matters in chapter 2.) The design prototype described here is intended to de-clutter the institutional environment; we need to strip away the inessentials in order to clarify the basic mechanics. Once this is accomplished, then introducing physical currency (or reverting to the unfortunate “deposit” terminology) becomes a trivial matter.

**Newbanks.** Newbanks are chartered by the government and owned by private shareholders. They are authorized to issue r-currency in exchange for financial assets, under terms and conditions established by the state. By acquiring financial assets in exchange for newly issued r-currency, newbanks augment the money supply. Conversely, by selling financial assets or allowing them to run off (mature), they shrink the money supply. In addition to this issuance function, newbanks facilitate commerce by managing the circulation of r-currency. In particular, they effect transfers of r-currency among accountholders via bookkeeping entries, just as deposit-banks do today. (Again, the precise payment processing technology is unimportant; the related topic of “clearing and settlement” among newbanks will be addressed briefly below.) In effect, newbanks are engaged in a joint venture with the state: a public-private partnership for the issuance and circulation of the money supply.

Why involve the private sector in this monetary function? After all, the state could reserve to itself the exclusive privilege of issuing r-currency. We can imagine, for example, a system under which the state would simply spend r-currency into circulation through its normal fiscal operations, without involving private agents at all. However, for reasons we will discuss in detail later (chapter 5), this approach to distribution would present serious practical problems in terms of both fiscal management and the administration of monetary policy. By comparison, issuing r-currency in exchange for (nonmonetary) financial assets—in effect, lending the money
supply into circulation rather than spending it into circulation—turns out to have significant practical advantages.

Of course, the state could pursue this lending strategy without involving the private sector; it could undertake these investment activities on its own. But there are reasons why the state might find it advantageous to outsource this investment function. That is, the state might want to hire investment specialists and provide them with incentive contracts that reward them for investing well. This is precisely what the newbanking system is designed to do.

Like any joint venture, this one needs to be structured. Two key terms of the structure are worth highlighting here. First, newbanks are required to abide by portfolio constraints. These constraints confine newbanks to diversified portfolios of relatively high-quality credit assets (loans and bonds). So newbanks are not permitted to engage directly in commercial activities, and they are disallowed from investing in equity securities, real estate, or commodities. Instead, their portfolios consist almost entirely of senior claims on other economic agents. The objective here is to limit aggregate portfolio risk (or “volatility”). Second, newbanks are subject to equity capital requirements. This just means that at least some specified proportion of each newbank’s financing structure must consist of a residual (or shareholders’ equity) claim. As residual claimants, newbank shareholders benefit from good portfolio performance, but they also absorb “first loss” in the event of portfolio losses. A supervisory regime monitors compliance with these risk constraints. How to calibrate these constraints is an important topic and one that will be discussed in detail later. For now, it will suffice to note that the constraints need to be permissive enough to accommodate the desired money supply.

As this discussion illustrates, newbanks’ investment activities are merely incidental to the regime’s public purpose, which is the issuance and circulation of the money supply. Newbanks are not properly viewed as financial “intermediaries.” The system’s purpose is not to link savers and borrowers, but rather to accomplish the state’s monetary objectives effectively. Put differently, r-currency does not represent claims on pools of assets. Rather, all r-currency is uniform, sovereign and noninterest bearing—again, like today’s physical currency. Its value is invariant to the performance of the issuing newbank’s asset portfolio. Under our design prototype, newbanks coexist with many other types of credit investors that are financial intermediaries: finance companies, insurance companies, securities firms, hedge funds, pension funds, mutual funds, and so on. The newbanking system’s size, and thus its relative share of the total credit market, is entirely a function of monetary policy; more on this below.

31 Of course, newbanks would need to own some real and personal property to conduct their business. In addition, they would be allowed to enter into derivative contracts for hedging purposes. Hedging transactions would be permitted only if they reduced aggregate portfolio volatility. See chapter 9.
Money-claims. As we have already seen, given the existence of some existing medium of exchange (in this case, r-currency), entrepreneurs can establish money-creation firms using standard tools of property and contract. The business model is straightforward. It involves issuing large quantities of IOUs that are redeemable on demand or in the very near term for the established form of money. Even if these short-term IOUs do not themselves function as a medium of exchange, they are nevertheless cash equivalents, and they satisfy an aspect of money demand.

Our design prototype imposes a general prohibition on this fragile, run-prone funding model. The issuance of monetary instruments, functionally defined, is legally confined to licensed newbanks. To see how this prohibition works, it is useful here to introduce a point of terminology. This book uses the generic term money-claims to denote short-term, fixed-principal IOUs (excluding trade credit) that are payable in the established medium of exchange (or in another money-claim).

Let’s take this definition step by step. The meaning of short-term is a central question and will be analyzed in detail in chapter 1; for now, think maturities of less than one year—the traditional dividing line between the money market and the capital market. Fixed-principal means that we are talking about credit instruments; demandable equity instruments (such as interests in standard mutual funds) do not count as money-claims. IOU means a promise to pay. Trade credit refers to IOUs issued in exchange for bona fide goods or services; these instruments are excluded from the money-claim definition. And the established medium of exchange is just the most generally accepted form of money. It should be clear that the money-claim definition encompasses such instruments as demand deposits and cash equivalents. It covers the money market but not the capital or derivatives markets.

Under the newbanking system, entities other than licensed newbanks are prohibited from issuing money-claims, subject to de minimis exceptions. A more precise specification of the prohibition, and relevant anti-evasion measures, will be discussed in some detail later. But the

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32 The reader may notice that this definition is recursive: the term money-claim is nested in the definition of money-claim. Recursive structures like this are common in a variety of legal and nonlegal contexts and are logically sound. For a discussion of recursion in the context of property rules, see Henry E. Smith, Property as the Law of Things, 125 HARV. L. REV. 1691 (2012). In the money-claim definition, the effect of recursion can be illustrated as follows. In today’s system of money and banking, a demand deposit instrument clearly meets the definition of a money-claim; it is redeemable for (payable in) physical currency, which is the established medium of exchange. A short-term repo instrument is also a money-claim; it is payable not in physical currency, but in a demand deposit instrument—which, as we just determined, is itself a money-claim. A short-term IOU payable in a repo instrument (if such a thing were to exist) would also be a money-claim, and so on.

33 In particular, later chapters will augment the prohibition to include contractually binding options to borrow that are exercisable (drawable) in the near term, including committed revolving credit facilities. These drawable facilities are subject to the same run-dynamic as money-claims, and their issuance would need to be confined to the newbanking system. The functional similarities between drawable facilities and money-claims are obvious;
general idea should be clear. This prohibition might initially seem radical, but it is just a functional modernization of banking law’s current prohibition on the issuance of deposit instruments without a special license. In a prior era, similar prohibitions applied to the issuance of circulating bank notes. As noted above, these prohibitions are, in every sense, the “first law of banking”—they are the essential starting point for banking law. The newbanking system is no exception.

Of course, this kind of prohibition should not be undertaken lightly; a commitment to market allocations of resources leads naturally to a presumption in favor of freedom of contract. Nevertheless, it is only a presumption. The law curtails the enforcement of contract where that enforcement would produce inefficient or otherwise undesirable outcomes. Antitrust law’s prohibition of contracts in restraint of trade is only the most obvious example. Another example comes from bankruptcy law, which usurps individual creditor remedies in order to make creditors as a whole better off. The first law of banking is conceptually analogous to these cornerstones of the legal structure of capitalism.

In our design prototype, this general prohibition on money-claim issuance has the effect of requiring all entities that are not licensed newbanks to finance their operations in the capital markets, not the money market. As we will see later, this prohibition would have major consequences for the financial system as it exists today. The direct effect on the nonfinancial sector, however, would be very modest. Contrary to what many people think, commercial and industrial firms hardly rely at all on money market funding. They finance themselves overwhelmingly in the capital markets, with equity and longer-term debt.

Hence, in our design prototype, newbanks are the exclusive issuers of monetary instruments—both r-currency and cash equivalents. In addition, all monetary instruments are sovereign in status. This includes cash equivalents: they simply become r-currency at maturity. Because cash equivalents in this system have no default risk, they bear interest at risk-free short-term rates, as determined by market forces. Thus all money creation is confined to the

according to three leading banking theorists, a drawable loan commitment “behaves just like a demand deposit” (emphasis in original) and offers “a very similar service.” Anil K. Kashyap, Raghuram Rajan, & Jeremy C. Stein, Banks as Liquidity Providers: An Explanation for the Coexistence of Lending and Deposit-Taking, 57 J. Fin. 33 (2002). Naturally, deposit-banks are the predominant issuers of such credit commitments today.

35 See 11 U.S. C. § 362(a) (the U.S. Bankruptcy Code’s automatic stay). As a formal matter, the automatic stay applies to contractual remedies and not rights; but surely we are all “legal realists” enough to recognize that the distinction between rights and remedies is illusory. The classic citation here is Oliver Wendell Holmes, The Path of the Law, 10 Harv. L. Rev. 457 (1897).
36 See chapter 1.
newbanking system, and all monetary instruments (r-currency and cash equivalents) are
sovereign and nondefaultable.37

**Affiliations.** Newbank charters are granted on an entity-by-entity basis, just like today’s
deposit-bank charters. This means that a newbank charter confers no privileges on the
newbank’s “affiliates”: other entities in its corporate group (parent companies, sister companies,
and subsidiaries). Those affiliates, like any other unlicensed entity, are prohibited under the
newbanking regime from issuing money-claims. They must finance themselves in the capital
markets, not the money market.

We saw above that newbanks face strict limitations on their permissible activities and
investments—again, like today’s deposit-banks. But should newbanks be allowed to affiliate
with firms whose portfolios and/or activities would be impermissible for the newbank itself? For
example, should a newbank be allowed to be held in the same corporate group with, say, a
securities firm?

This type of question has long figured prominently in U.S. deposit-bank regulation.
Under the famous Glass-Steagall regime, a deposit-bank could not be held in the same corporate
group as a securities firm (also known as an investment bank). This Depression-era prohibition
was repealed in 1999. To be clear, the repeal of Glass-Steagall did not mean that deposit-banks
themselves could engage in investment banking activities. Even today, they remain prohibited
from doing so. This is a common point of confusion: restrictions on affiliations should not be
conflated with the basic activity and portfolio restrictions that apply directly to deposit-banks.

Arguably, the importance of affiliations has been vastly overemphasized in modern U.S.
bank regulation. There will be more to say about this in Part III. For now, suffice it to say that
there are reasonable arguments both for and against allowing newbanks to affiliate with other
financial enterprises. This is not a very important issue in the grand scheme of things; it is a
fairly minor design question. At any rate, if newbanks were permitted to affiliate with securities
firms and the like, then they would be subject to limitations on affiliate transactions. Such
restrictions are nothing new; they are a core part of modern deposit-bank regulation.38

It may be useful here to visualize, at a very high level, what the newbanking system
would mean for a giant financial conglomerate, like J.P. Morgan, Bank of America, or Citigroup.
(Let’s assume that we have decided to allow affiliations.) In simple terms, we can picture the
conglomerate as consisting of a holding company with two subsidiaries: a big deposit-bank and a

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37 Consequently, there would be no such thing as, for example, a money market mutual fund. Instead, there would
be a single system of money-issuing firms, operating under a single set of terms and conditions. The newbanking
system would get the S.E.C. out of the monetary business, which falls outside of its expertise and core competency.

big securities firm. Under newbanking, the deposit-bank would become a newbank; this would require some changes to its business model, but not dramatic ones. The securities firm, on the other hand, would be required to end its reliance on short-term funding. It would finance itself in the capital markets, not the money markets. Nor would the conglomerate be able to simply move its securities business into its newbank: as noted above, newbanks are subject to activity and portfolio constraints that would be incompatible with a securities business. And restrictions on affiliate transactions would prevent the conglomerate’s newbank from lending to the securities affiliate in meaningful amounts.

**Seigniorage.** Newbanking was described above as a joint venture with the state, but what are its economic terms? This is a key issue and a major point of contrast from today’s system of money and banking.

Under newbanking, the returns from each newbank’s credit portfolio are split between the newbank and the state, as follows. Each newbank pays a periodic (say, quarterly) fee to the state based on the quantity of its issued and outstanding r-currency and cash equivalents. The newbank’s earnings net of the fee flow to shareholders’ equity. The fee is risk-based, meaning that it is tailored to the individual newbank’s risk characteristics—in particular, its asset quality and capital adequacy. Fee obligations are secured by a lien on each newbank’s investment portfolio. In effect, the state holds a senior claim on each newbank’s assets. The state’s fee stream from the newbanking system constitutes seigniorage: government revenue from money creation.

It is obvious that this seigniorage fee system is essential. Otherwise, newbanks would earn windfall profits. Newbanks have the privilege of funding their portfolios by issuing sovereign monetary instruments: r-currency that bears no interest at all, and nondefaultable cash equivalents that bear interest at short-term risk-free rates. In the absence of fees, newbank shareholders would extract enormous rents from the public. And recall the core logic of newbanking. The state has decided to invest the money supply into circulation. Investing requires expertise, so the state outsources to specialists. It wants to harness private incentives to invest well. The state’s goal should be to earn a fair return—not give its returns away.

These seigniorage fees bear a superficial resemblance to today’s deposit insurance fees. After all, U.S. deposit-banks do pay periodic, risk-based fees to the FDIC. However, today’s deposit insurance fees are not a source of government revenue. They are used only to cover

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39 The proper calibration of these fees is an important question and is addressed in Part III. Essentially, the fees are designed to replicate the financing costs that the licensed entities would incur were they to replace their issued and outstanding monetary instruments with longer-term debt financing in the capital markets.
deposit insurance payouts. Critically, when the deposit insurance system is fully funded, deposit-banks are relieved of further contributions.\footnote{Before the Dodd-Frank Act, the FDIC was required to declare “dividends” to participating deposit-banks from the deposit insurance fund once the fund reached a specific size in relation to outstanding insured deposits. The Dodd-Frank Act gave the FDIC discretion regarding whether to suspend or limit the declaration of dividends. \textit{See} Dodd-Frank Act § 332, 12 U.S.C. § 1817(e). Nevertheless, even as modified, the deposit insurance system does not function as a source of government revenue.} This clearly is not a seigniorage system.

As a result, the U.S. government today earns seigniorage only on the central bank’s portfolio. That is, seigniorage revenue arises only from credit assets that the central bank holds directly—assets that it acquires when it issues base money. Money creation by the deposit-banking system does not give rise to public revenue. Under newbanking, however, there is no base money/bank money distinction. All monetary instruments are sovereign and default-free, and the state receives seigniorage revenues from the entire newbanking system.

This discussion of seigniorage fees also illuminates the basic rationale for the newbanking system’s risk constraints—the portfolio constraints and capital requirements that were described above. Think about it this way: if an arm of state could reliably charge perfect fees, then there would be no need for portfolio constraints or capital requirements. A newbank with a very risky portfolio and/or very low capital would simply be charged an extremely high fee. The state would be indifferent, since it would be fully compensated for bearing the risk. In reality, though, the state should be expected to have imperfect valuation capabilities. And these very deficiencies give newbanks an incentive to ramp up portfolio risk in order to extract value from the state. This is the well-known phenomenon of moral hazard. The newbanking regime’s portfolio constraints and capital requirements are designed to counteract these moral hazard incentives. Later we will discuss the framework for calibrating these tools.

If a newbank experiences portfolio losses that render it unable to honor the state’s senior claim, then the state suffers a capital loss—a reduction in the present value of its expected seigniorage fee stream. In the event of critical undercapitalization, newbanks enter a special insolvency system under which r-currency and cash equivalents are seamlessly honored while ordinary debt and equity claims are subject to impairment or extinguishment.

\textit{Administration.} How is the aggregate quantity of outstanding monetary instruments (r-currency and cash equivalents) determined? The newbanking system employs a cap-and-trade system. Each newbank holds a permit entitling it to issue a certain nominal quantity of money (r-currency and cash equivalents). The system’s aggregate permit capacity constitutes a cap on the quantity of money outstanding. Permit capacity is tradable among newbanks. Accordingly, those newbanks with more attractive credit investment opportunities can acquire capacity from newbanks with less attractive investment prospects. For diversification and competition
purposes, no newbank is permitted to hold more than some specified percentage of outstanding permit capacity, say 10 percent.

The system is administered by a monetary authority—an independent federal agency. The monetary authority establishes the cap on the quantity of money outstanding. It adjusts this cap in the conduct of monetary policy, pursuant to its statutory macroeconomic policy mandate. To generate a monetary expansion, the monetary authority increases outstanding permit capacity. Newbanks can then expand their portfolios by acquiring more credit assets (subject to the applicable portfolio restrictions and capital standards), thereby putting more money into circulation. A monetary contraction works the other way around, requiring newbanks to reduce new originations relative to maturing assets or perhaps even to shed assets in the secondary market. In that case existing money is retired. Thus the size of the newbanking system is determined by the monetary authority’s policy mandate.41

The newbanking system would also include certain other administrative tools. There would need to be a rulemaking apparatus, a supervisory function, and a special insolvency regime. These functions might be allocated to the monetary authority. Alternatively, they might be allocated to one or more other agencies specializing in such matters. These administrative particulars are secondary issues and need not be addressed here.

Conspicuously absent from this design sketch has been the core institution of modern monetary systems: the central bank. This omission is intentional. While the newbanking system is certainly compatible with a central bank, the approach arguably renders the central bank unnecessary. As we have just seen, it should be possible for the monetary authority to conduct monetary policy through an administrative apparatus without resorting to a state-owned central bank that transacts directly in the market. Under the proposed design, newbanks transact on the monetary authority’s behalf—their raison d’être. So the monetary authority need not have a balance sheet of its own.42 In addition, other key functions of modern central banks, including payment system (clearing and settlement—see below) and lender of last resort functions, should also be rendered unnecessary.

On reflection, this should not be surprising. As we have seen, a defining characteristic of existing monetary arrangements is that the central bank issues “base,” “high-powered” or “outside” money while other entities (like deposit-banks) issue redeemable monetary instruments

41 To be clear, there is no suggestion here that the monetary authority adopt any particular monetary policy rule or operating target. This book is agnostic on these questions. I assume that the monetary authority operates under a broad macroeconomic policy mandate—say, a dual mandate of full employment and price stability.

42 It might be objected that newbanks cannot be relied upon to fulfill the monetary authority’s policy objectives. In particular, newbanks might sometimes fail to generate a desired monetary expansion despite being granted additional permit capacity—a circumstance that macroeconomists sometimes call a “liquidity trap.” This topic is discussed in Part III.
that are of lower monetary status. By eliminating this dichotomy—that is, by making all money equally sovereign—the newbanking system calls into question the need for a “central” bank of which the state is the residual claimant. There is no base money in newbanking; newbanks do not hold fractional reserves; there is no federal funds market (the interbank market for loans of base money); there is no discount rate (the rate at which the central bank lends base money); there is no need for a discount window or lender-of-last-resort function. Newbanks issue fiat money.

Clearing and Settlement. We can conclude this design sketch by addressing a rather technical issue, one that is a common source of confusion. To see the problem, first imagine there to be just one newbank. That newbank would be the sole issuer of r-currency. In that case, all payments in the economy would be effected through simple bookkeeping entries. Upon instruction from a payer (via whatever processing technology), the newbank would debit the payer’s r-currency account and credit the payee’s r-currency account by an equivalent amount. The newbank’s balance sheet would be unaffected by these two book entries.

Presumably, though, the government wants to license multiple newbanks for diversification and competition purposes. This circumstance makes the payment mechanics slightly more complicated. The issue arises because most agents in the economy do not want to hold r-currency accounts with a large number of newbanks. That would be cumbersome and inconvenient. They typically want to hold an account with just one newbank. So what happens when the payer and the payee hold accounts with different newbanks?

Under today’s system of money and banking, here is how it usually works. The payer’s bank debits the payer’s deposit account, and the payee’s bank credits the payee’s deposit account. In the absence of any other transactions, the payer’s bank would see its liabilities reduced, making it better off, and the payee’s bank would see its liabilities increased, making it worse off. To offset these effects, the payer’s bank delivers an asset to the payee’s bank. In almost all cases, this asset is base money (in the form of a central bank reserve balance). This is the process of clearing and settlement in the payment system. It is generally managed through electronic systems managed by the Federal Reserve, and it is coupled with a system of “intraday credit” whereby the central bank advances base money to deposit-banks to enable them to settle payments with other deposit-banks throughout the day.43 This complicated and risky system arises from the simple fact that there are many deposit-banks, but most agents do not want to hold large numbers of deposit accounts.

The newbanking system makes possible a far simpler method of clearing and settlement. Newbanks need not hold reserves of base money; indeed, there is no such thing as “base” money.

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43 Intraday credit is institutionally distinct from the discount window. For a technical overview, see Federal Reserve System, Guide to the Federal Reserve’s Payment System Risk Policy on Intraday Credit (July 2012).
in our prototype. When the payer’s newbank debits the payer’s r-currency account by $X, it
does not deliver an $X asset to the payee’s newbank. Instead, it books a new $X liability, which
we can call a “sovereign debit.” The functional significance of the sovereign debit is simply this:
for purposes of calculating seigniorage fees, sovereign debits are added to the newbank’s
outstanding r-currency. Accordingly, after the payment is made, nothing of substance has
changed at the payer’s newbank: its investment portfolio is unchanged, its capital ratio is
unchanged, and its seigniorage fee obligations are unchanged.

What about the payee’s newbank? It credits $X to the payee’s account. But it does not
receive an asset from payer’s newbank. Instead, it simply books a new $X asset, called a
“sovereign credit.” Its functional significance is this: for purposes of calculating seigniorage
fees, sovereign credits are netted against the newbank’s outstanding r-currency. In addition,
sovereign credits are not counted as assets for purposes of calculating capital ratios.
Accordingly, after the payment is made, nothing of substance has changed at the payee’s
newbank: its investment portfolio is unchanged, its capital ratio is unchanged, and its seigniorage
fee obligations are unchanged.

Under this approach, the newbanking system will always generate seigniorage revenues
“as if” there were just a single newbank. The system does not require any complicated,
centralized processes to manage interbank asset transfers or provide intraday credit. The
newbanking system makes it possible to replace this risky and resource-intensive apparatus with
a simple and elegant device.

Some Observations

The foregoing broad-brush description leaves a number of questions unanswered. How
does the monetary authority go about calibrating the regime’s portfolio constraints, capital
requirements, and risk-based fees? What is to stop the financial industry from just innovating
around the system? How does the special insolvency regime work exactly? What are the
international ramifications? These questions are very important, but they can be deferred for
now. These and other matters are addressed in Parts II and III.

Those who are familiar with modern U.S. bank regulation will have observed that the
newbanking system bears a certain resemblance to the deposit-banking regime as it exists today.
Consider the following parallels, some of which we have already encountered. Deposit-banks
have special licenses (charters) that permit them to issue monetary instruments styled as
“deposits.” Unlicensed entities are legally prohibited from issuing these instruments. Deposit
instruments are the principal medium of exchange in the United States. Most deposits are
federally insured: they are sovereign money. Deposit-banks are subject to strict portfolio
constraints that mostly confine them to diversified portfolios of credit assets. They must also
abide by equity capital requirements. They are subject to strict limitations on affiliate
transactions. They pay risk-based fees to the state through the deposit insurance system. When a
deposit-bank’s capital is impaired, the government places it into a special insolvency system under which insured deposits are seamlessly honored while the entity’s portfolio is monetized in satisfaction of the government’s senior claim. A statutory concentration limit prevents any one deposit-bank from controlling more than 10 percent of outstanding insured deposits. All of these features are present in newbanking. Even the newbanking system’s most seemingly exotic feature—the cap-and-trade approach to managing the quantity of money—finds a direct analogue in the current deposit-banking system. As we will see later, cash reserve requirements (not to be confused with capital requirements) play a very similar role, or they have in the past anyway.

Thus the newbanking system embodies many of the core features of our familiar deposit-banking regime. This recognition is important. When it comes to institutional design, unintended consequences are a persistent danger. Radical redesigns should therefore be greeted with skepticism. But the newbanking prototype does not contemplate a wholesale replacement of existing institutions. On the contrary, it relies to a large extent on institutional technologies that have been in active use for many decades. The approach is essentially conservative in its design: it envisions a modernization of the current system along functional lines.

In fact, the approach could be implemented through a series of incremental modifications to the current U.S. deposit-banking system. To get to a rough approximation of newbanking, do the following:

- Prohibit short-term funding (money-claim issuance) by financial firms other than deposit-banks, subject to de minimis exceptions;
- Apply reserve requirements to all of the money-claims (inclusive of deposits) issued by the deposit-bank sector;
- Fully insure all of deposit-banks’ outstanding money-claims (and only their money-claims; terminate insurance of long-term certificates of deposits);
- Charge risk-based fees to the deposit-banking sector for this public backstop, and keep charging those fees even if the FDIC’s insurance fund is fully funded (at which point the fees would become a fiscal revenue item);
- Tighten up existing deposit-bank portfolio constraints—most importantly, implement a swaps push-out rule along the lines of Dodd-Frank’s; and

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45 The author is not the first to make this observation. Harvard economist and Federal Reserve governor Jeremy Stein recently suggested that under a system of reserve requirements, central bank reserves function as “tradable permits” for “private money creation.” Jeremy C. Stein, Monetary Policy as Financial-Stability Regulation, 127 Q. J. ECON. 57, 59 (2012).
Supplement the existing international accord on capital (the Basel Accord) with an accord that prohibits financial institutions from issuing money-claims denominated in nondomestic currencies (see chapter 9).

These steps would bring us to something resembling newbanking. This is not some farfetched scheme; again, the approach is fairly conservative. It finds much that is worth preserving in the current system.

Despite its flaws, the modern deposit-banking regime has achieved a measure of success. The U.S. monetary system began to assume its modern form with the advent of federal deposit insurance in 1933. That event marked a revolutionary change in the design of the monetary system. With deposit insurance, the bulk of the money supply went from private to sovereign. And this shift ushered in a remarkable development. Prior to deposit insurance, panics or liquidity crises—swift and widespread redemptions of money-claims—were a regular feature of the banking landscape. These unraveling events were often associated with severe disruptions to the broader economy. But coincident with the creation of deposit insurance, panics disappeared from the financial scene. Gary Gorton describes the era that followed as an unprecedented Quiet Period that lasted for nearly three-quarters of a century.46 What caused the Quiet Period to end? Toward the end of the twentieth century, the deposit-banking system’s position in money creation began to erode, as cash equivalents (shadow banking) assumed greater prominence. These substitute forms of money saw explosive growth in the 1990s and 2000s, and they were the locus of the panics of 2007 and 2008.

This history reveals the most glaring defect in the design of the U.S. deposit-banking system: the selection of the “deposit” as the operative instrument. It should now be apparent that this is an arbitrary formalism. Newbanking rectifies this institutional defect. It defines money on a functional, as opposed to a formalistic, basis. Newbanking confines the issuance of money to a carefully engineered institutional apparatus, including a cap on total issuance. And it makes the entire (broad) money supply sovereign and default-free. In 1960, Milton Friedman observed that “federal deposit insurance has performed a signal service in rendering the banking system panic-proof.”47 In theory, newbanking does the same, and in a way that is less susceptible to regulatory arbitrage.

Here we reach a point that often encounters skepticism. This book argues that once the system has been made panic-proof, the problem of financial instability will effectively have been solved. Other stability-oriented financial regulation would then be superfluous. This is another way of saying that, when it comes to financial stability policy, panics are “the problem” (so to

47 Friedman, supra note __, at 38.
Panics do damage to the broader economy that is in addition to, and that typically dwarfs, whatever damage flows directly from the antecedent conditions gave rise to the panic.

If panics are the problem then other things are not. Take asset-price “bubbles,” for example. The contention of this book—admittedly controversial—is that the bursting of an asset-price bubble, in the absence of a panic, generally does not present a serious danger to the broader economy. Or take “too big to fail.” This book makes the case that in a panic-proof system, the insolvency of even a large financial firm does not pose a serious threat to the performance of the economy. Simply put, the problem of financial instability and the problem of panics are one and the same, which is to say that financial instability is about private money. A major task of Part I is to make this case.

Of course, even if one accepts that panics are the problem, one might not favor a general prohibition on short-term funding. Interventions have costs as well as benefits. One might prefer instead to leave fragile short-term funding untouched, while targeting the events and conditions that can trigger panics (“bubbles,” “excessive risk-taking,” and so on). Alternatively, one might favor just dealing with panics as they arise, through lender-of-last-resort facilities or other forms of public support. Or one might argue that the creation of a special insolvency system for financial firms (in financial regulatory parlance, a “resolution authority”) is a satisfactory answer to panics. Finally, one might argue that we should do nothing—that any cure would be worse than the disease. The question here is one of comparative institutional analysis—choosing the optimal locus and mode of intervention. Part II is devoted to an analysis of these issues, and it finds major problems with each of these alternatives.

While newbanking is essentially conservative in its basic design, its practical implications for the existing financial sector would be profound. To a far greater extent than is commonly understood, our financial sector funds itself through the issuance of extremely short-term IOUs. These instruments are cash equivalents: they are money-claims. And the market for these instruments is vast, far exceeding the insured deposit market in size. Under the newbanking regime sketched above, many financial firms that currently rely heavily on money-claim funding, such as the major Wall Street dealer firms and many hedge funds, would be precluded from doing so. Their current funding models would be incompatible with the newbanking system. In practical terms, such firms would be required to “term out” their funding structures, that is, finance their operations in the longer-term debt and equity capital markets, not the money

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48 For a good description of this funding structure, see Darrell Duffie, The Failure Mechanics of Dealer Banks, 24 J. ECON. PERSP. 51 (2010). Among other things, Duffie describes a major (and often overlooked) form of deposit-substitute that dealer firms issue: so-called “free credit balances” that dealers issue to hedge funds through their prime brokerage divisions. These instruments fall squarely within the definition of money-claim above. Under the newbanking system, prime brokers would be permitted to hold cash instruments for hedge funds and other third parties on a custodial basis, but they would be prohibited from issuing such instruments themselves.
market. This requirement would be costly for these institutions and would bring significant changes to their business models. But there appears to be little reason to regard Wall Street’s current funding model as sacrosanct—particularly in view of the events of recent years.49

That said, nothing in the newbanking approach would make “finance” more primitive or less innovative. The design sketch above says nothing about what activities can take place outside the licensed newbanking sector. It only says that those activities must be financed in the capital markets, not the money market. In principle, we could imagine a very wide degree of latitude for nonbank firms, subject of course to appropriate standards of disclosure, antifraud, and consumer protection. So securities firms and other nonbanks might be given free rein to engage in structured finance, derivatives, proprietary trading, and so on. But they would not be allowed to fund short.

Prior to the recent financial crisis, our monetary system was characterized by the absence of legal restrictions on the private issuance of cash equivalents, coupled with an implicit commitment by the lender of last resort to honor these instruments. This dubious structure remains basically unchanged. Rather than address the deep structural defects in the existing monetary system, we have opted for a staggeringly complex and hypertechnical regulatory overlay. Part III argues that these reforms’ prospects for success are doubtful: the system that has emerged is unworkable.

Arguably, we have been making financial stability policy much more complicated than it needs to be. Panics are an age-old problem; they are not about cutting-edge developments in contemporary finance. Private money is not complex. On the contrary, these instruments are the most primitive financial instruments in existence. The upshot is that panic-proofing does not entail the extension of regulatory oversight or control over the outer reaches of modern finance. Nor does it entail taking aim at nebulous targets like “systemic risk” or “excessive risk-taking.” It is not clear that these are even meaningful concepts—much less that they can provide a sound basis for policy. Before embarking on a vast array of costly and speculative interventions in the financial system, then, we might be well served by trying to get money right. It might then turn out that many of the supposed problems of finance are not as big as we thought.

49 At this writing, the major Wall Street firms have meaningfully extended the duration of their financing relative to the precrisis years. While this shift may be welcome, it should not be taken as an indication of permanent institutional change. Rather, as Jeremy Stein of the Federal Reserve board has pointed out, this shift is largely a consequence of the availability today of historically cheap long-term debt financing—cheapness that Stein attributes in significant measure to the Federal Reserve’s unconventional monetary policies of recent years. See Jeremy C. Stein, “Evaluating Large-Scale Asset Purchases,” Remarks at the Brookings Institution (Oct. 11, 2012). This financing shift should not be expected to persist if and when interest rates return to a more typical configuration. It would obviously be a mistake to interpret a temporary fluctuation as a permanent structural change.
**Preview of the Book**

The discussion above has introduced a number of the key themes of the book. It is useful to conclude this Introduction with a brief roadmap of what lies ahead. [Remainder of section omitted.]

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**References – Introduction**


